REMARKS

Claims 2 and 32-35 have been cancelled without prejudice. Claims 3, 5, 6, 10, and 28-30 have been withdrawn from consideration by the Examiner. Claim 1 has been amended to recite that the composition is for skin wound healing and that it contains placental alkaline phosphatase (PALP) in an amount effective for stimulating proliferation of fibroblasts and a gel-forming material. Support for these amendments can be found, for example, at page 9, lines 5-7 and at page 17, lines 4-17 of the specification. No new matter has been introduced. Applicant respectfully requests reconsideration and allowance of claims 1, 4, 7-9, 27, and 31. Applicant also requests consideration of other species set forth in the withdrawn claims.

Rejections under 35 U.S.C. §103

The Examiner rejected claims 1, 2, 4, 7-9, 27 and 31 under 35 U.S.C. §103(a) as being unpatentable over Sugitachi et al. (U.S. Patent No. 4,265,233), Fischer et al. (U.S. Patent No. 4,556,056) or DE 3007226 taken with WO 92/14480 and Poelstra et al. (U.S. Patent No. 6,290,952) and in further view of Millan et al. (Crit. Rev. Clin. Lab. Sci., 1995, 32(1):1-39). Sugitachi et al., Fischer et al., and DE 3007226 were characterized as teaching that "gelatin is known to be used to treat wounds in a topical application." WO 92/14480 was characterized as teaching "insulin is known to be used in a composition to topically treat wounds." Poelstra was deemed to teach that "alkaline phosphatase is known to be used to treat wounds." The Examiner asserted that it "would have been obvious for one of ordinary skill in the art to combine the individual ingredients to form one composition since the ingredients are known individually to be used for the same purpose of treating wounds." The Examiner further asserted that in view of Millan et al., the choice of using placental alkaline phosphatase versus other alkaline phosphatases "is simply the choice of the artisan in an effort to optimize the desired results." Applicant respectfully disagrees.

The Sugitachi et al. patent discloses that Factor XIII or Factor XIII and thrombin can be attached to structures such as monofilaments, fibrous assemblies, films, or sponges (e.g., gelatin sponges) then applied to a wound site. Factor XIII acts as a fibrin stabilizer and promotes healing of the wound. See, column 1, lines 35-38 and 49-63; and column 3, lines 18-30 of the Sugitachi et al. patent.

The Fischer et al. patent discloses a bandage material that contains substances important to the treatment and healing of the wound, such as buffer substances, antiseptics, antibiotics, medicinal substances, nutrients, hormones, and local anesthetics. See, column 3, lines 6-18. The bandage material contains a hydrophilic transparent organic gel, which can be a mixture of a hydrophilic polymer and at least one gellable substance of high molecular weight (e.g., agarose or gelatin). See, column 3, lines 28-32 and lines 64-68; and column 4, lines 29-36 of the Fischer et al. patent.

The abstract of DE 3007226A discloses that chlorhexidine and allantoin can be incorporated into soft gelatin capsules. Chlorhexidine and allantoin can exert a synergistic effect on healing.

WO 92/14480 discloses a method for promoting accelerated wound healing by administering recombinant G-CSF or recombinant GM-CSF to the patient at the wound area. See, page 20, lines 3-7 of WO 92/14480. In some embodiments, recombinant G-CSF or recombinant GM-CSF can be combined with another protein such as EGF, FGF, IGF-I, IGF-II, insulin, an interferon, an interleukin, KGF, M-GSF, PD-ECGF, PDGF, SCF, TGF-α, or TGG-β. See, page 20, lines 21-31, of WO 92/14480. It is indicated that each of these proteins may accelerate wound healing. See, page 13, line 1 through page 14, line 12 of WO 92/14480.

The Poelstra et al. patent discloses that compositions containing alkaline phosphatase can be used for treating or preventing clinical complications induced by infections with Gram-negative bacteria (e.g., sepsis) as alkaline phosphatases have endotoxin-detoxifying activity. The compositions also can be used for promoting bone formation as alkaline phosphatase can cause mineralization of the bone matrix and supersaturation of the environment with phosphate. See, for example, column 5, lines 25-35, column 6, lines 15-30, and column 7, lines 8-50 of the Poelstra et al. patent. PALP is noted to be particularly useful for the systemic prevention of sepsis. See, column 11, lines 3-9 of the Poelstra et al. patent.

The Millan reference is a review of the biology of human alkaline phosphatases.

The combination of references does not teach or suggest a composition for skin wound healing in a patient that includes a gel-forming material and an amount of PALP effective for stimulating proliferation of fibroblasts. In particular, the combination of references does not teach or suggest that PALP would be useful for treating skin wounds. Rather, the Poelstra et al.

patent indicates that PALP is useful for promoting bone formation or for treating or preventing clinical complications induced by infection with Gram-negative bacteria. Thus, in contrast to the Examiner's assertions, the use of each ingredient for treating skin wounds is not known.

Choosing PALP from the group of alkaline phosphatases is not simply optimization of the desired result. As indicated in the attached article by She et al. (FEBS Letters, 2000, 469:163-167, copy enclosed), PALP stimulated the synthesis of DNA in NIH 3T3 fibroblasts, while tissue non-specific alkaline phosphatase and intestinal alkaline phosphatase did not stimulate DNA synthesis in the fibroblasts. See, page 165 of the She et al. article.

As indicated in MPEP §2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention when there is some teaching, suggestion or motivation to do so found explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Since none of the cited references teach or suggest that PALP is useful for skin wound healing, the combination of references does not teach or suggest the presently claimed compositions. The Examiner is requested to withdraw the rejection of claims 1, 2, 4, 7-9, 27 and 31 under 35 U.S.C. §103(a).